

January 14, 2008

To: Paul Michel

From: Chris Harrold, SAC Research representative

Re: Summary of 12/14/08 [*sic; correction=12/14/07*] comments on MPAs in the sanctuary

Cc: Research Activities Panel

This letter summarizes the comments I made during the SAC discussion of MPAs in sanctuary waters, held on December 14, 2007, related to the issue of establishing new MPAs in federal waters of the sanctuary. I'm addressing your question, should the sanctuary re-engage in a stakeholder process to consider MPAs in federal waters of the sanctuary. As I stated at the SAC meeting, these comments don't necessarily reflect the views of the Research Activities Panel or the scientific community of the MBNMS in general. I'm basing my comments on my understanding of the science underlying ecosystem protection and MPAs, discussions I've had with RAP members and scientists on the sanctuary's MPA working group, and on my philosophy and opinions regarding human activity and marine resource protection.

**Marine protected areas provide benefits beyond traditional fisheries management measures.** In my opinion, there is solid scientific evidence to support the idea that marine protected areas, including marine reserves, can contribute to the ecosystem protection goals of the Monterey Bay National Marine Sanctuary. I presented this evidence in my talk at the 12/13/07 session of the SAC meeting. I also believe that the intended benefits of marine protected areas are distinct from those of traditional fisheries management tools. The argument has been made that the conservative, even draconian, fisheries management measures that have been implemented in the state and federal waters of California and beyond over the past 10 years provide all the resource protection that is required. Further, it is argued that since pelagic species don't respond to MPAs and targeted groundfish stocks appear to be recovering, MPAs offer no added protective value. The problem with this argument is that there are real, measurable and unavoidable ecosystem impacts of fishing activities, even in perfectly managed fisheries. The most important of these are the unintended and often unknown ecological consequences resulting from the reduction in biomass of targeted fish stocks. Other unavoidable ecosystem impacts of fishing are: reduction in abundance and diversity of marine organisms resulting from bycatch; habitat destruction from fishing gear, especially trawling; and life history modification of targeted stocks, especially age and size truncation. These impacts cannot be mitigated by fisheries management alone; they can be solved by a combination of sound fisheries management and well-designed networks of marine protected areas, including marine reserves.

**Marine protected areas can improve fishing opportunities over the long term.** I'd like to address the idea that MPAs will be the straw that breaks the camel's back of the commercial fishing enterprise in the MBNMS, an idea that has been raised by commercial fishing interests. According to this scenario, the commercial fishing endeavor in this region is but a fraction of the level of 10 to 20 years ago, in terms of number of vessels fishing and landings. Fishing is currently so heavily regulated that it's difficult for fishermen to make a living. The lost fishing opportunities from new MPAs will push commercial fishing over the brink, the industry will collapse and the sanctuary will lose its fishing heritage. While I'm sympathetic to the economic plight of the commercial fishing industry, neither logic nor available information supports this scenario. Evidence presented by Dick Parrish and Steve Ralston show that groundfish populations are recovering as a result of restrictive fisheries regulations. These regulations will become less restrictive as populations recover, leading to increased opportunities for commercial fishermen. Fisheries for crab, sardines, squid, and other pelagics appear to be healthy. Therefore, it seems unlikely that the commercial fishing industry in the sanctuary will collapse simply because a small percent of sanctuary waters is closed to extractive activity. Furthermore, preliminary data from the Channel Islands in southern California show that landings have increased in the 3 years since the establishment of MPAs around the Channel Islands. Of course we don't know if landings and MPAs are related in this case, but the point is that landings didn't *decrease*, as the commercial fishing interests have assured us will happen. In fact, I have yet to see a single paper or report that shows fisheries collapse or significant, negative socioeconomic impacts resulting from the establishment of MPAs. To the contrary, there is a vast literature showing improvements in both fisheries performance and socioeconomic conditions resulting directly from implementation of MPAs.

**Marine protected areas preserve the unknown.**

A real threat to marine ecosystem health is the loss of marine species and entire communities that we don't even know we have. We continue to discover new species and new communities right in our own back yard. Cold-seep chemoautotrophic bivalve communities and bone-digesting invertebrate fauna on whale carcasses were both discovered in the deep waters in or near the MBNMS within the past 15 years and both revealed species and lifestyles previously unknown to science. MPAs and marine reserves are the only way to prevent the loss of life forms we don't yet know exist.

**Marine protected areas provide research platforms to answer vital ecological questions.** Despite the millions of dollars that have been invested in marine research over the past 100 years, we remain essentially ignorant about the likely ecological outcomes of human activities in the oceans. We are conducting vast, uncontrolled ecological experiments whose outcomes we can't possibly imagine. Establishing marine reserves for experimental research and baseline monitoring is the only way to gain a predictive understanding of marine ecosystem function. We need replicate, undisturbed (to the greatest extent possible) control sites that can be compared with replicate sites where ecosystem elements have been manipulated. For example, scientists were confounded in their efforts to ask even the simplest questions (what is the impact of

trawling activity on benthic communities?) because undisturbed control sites with otherwise similar conditions could not be found.

**Marine protected areas are well-regarded tools for protecting public trust**

**resources.** We can't ignore the strong public sentiment that sanctuary waters should be more protected from extractive activity than they are now. If I recall correctly, over 8,000 comments favoring more MPAs in sanctuary waters were received during the public scoping process of the Joint Management Plan review process. During the public comment period at the 12/13/07 SAC meeting, 32 speakers supported MPAs in sanctuary waters; 7 speakers opposed and 4 speakers were neutral. While it's difficult to extrapolate from such a small sample size, both state and national public opinion polls show the same trends. In my opinion it's undeniable that establishing marine protected areas in federal waters of the sanctuary waters has widespread public support that numerically dwarfs public opposition. This is important, since ocean resources are a public trust and not an entitlement to a select few.

For all these reasons, it's my opinion that the sanctuary should re-engage in a stakeholder process to consider implementing a network of MPAs in federal waters of the sanctuary. However, it is critical that the process moving forward is a different and improved process. To this end, I ask that you to keep the following things in mind. First, now is the ideal time to undertake this exercise. We are not in a crisis mode but we have evidence and trends suggesting current protections are inadequate. In other words, the issue is important, but not urgent. We have time to think this through and do it right.

Second, we have to ask the right questions and answer them as best we can. The presentations on 12/13/07 were a beginning.

Third, we need to address the socioeconomic issues, with credible experts who all stakeholders trust and with defensible data. The socioeconomic research should be retrospective as well as prospective. What does history tell us about the socioeconomic consequences of implementing MPA networks?

Fourth, we must avoid a process that can be held hostage by the threat of veto or walk-out by any stakeholder group. Any such process will surely fail.

Fifth, the process should be facilitated by a professional with strong conflict resolution skills and who is trusted by all stakeholders.

Finally, the process should have an end-goal and a timeline agreed to by all stakeholders.

We are participating in an assault on the resources and ecosystems of this planet that is unprecedented in human history. Evidence of marine ecosystem stress, and in some cases failure, is all around us. We can debate the details, but in the big picture the trends are pretty clear. Is it asking too much, is it taking too great a risk, to engage in a stakeholder process to implement effective tools for restoring and sustaining our ocean environment?

Thanks for the opportunity to weigh in on this important issue.